

# You, Me & SVG!



Level 3

# Group de Loop

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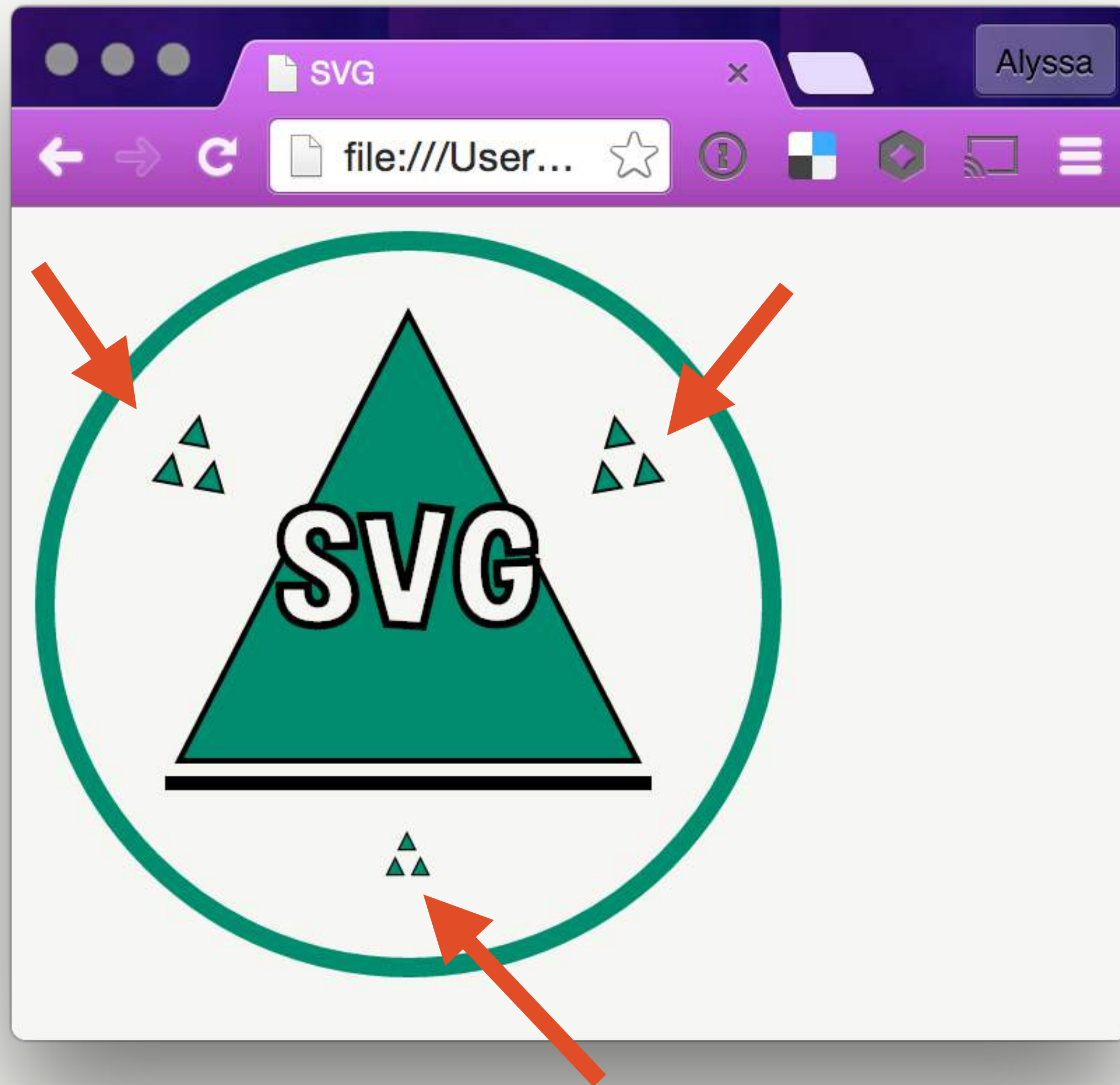
## Section 2 – Transform to the Rescue





# Other Ways to Use Transform

You can also rotate and scale with transform!



# Rotating With Transform

To rotate this top left group of polygons, we use transform's rotate property.

**Rotate takes three values: the degrees to rotate and the x,y to rotate around.**

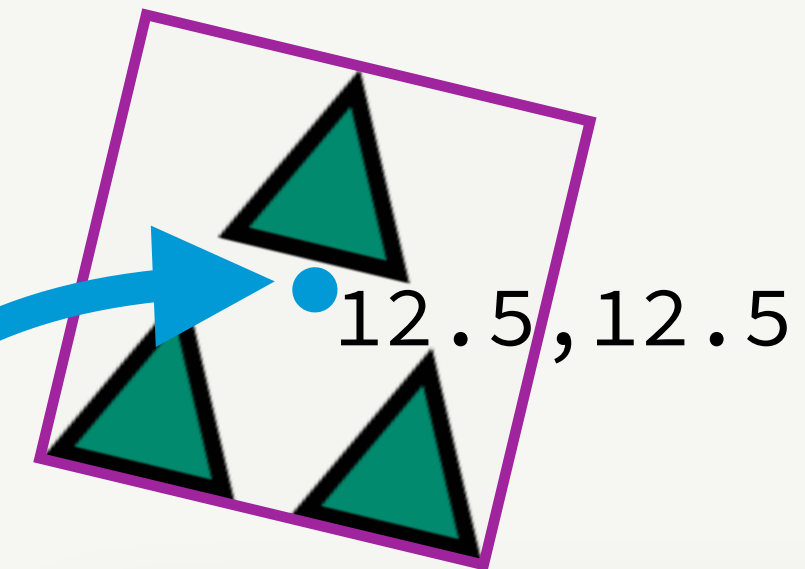
index.html

```
<g class="first triangle_group"
  transform="translate(45, 67) rotate(10 12.5 12.5) ">
  <polygon points="7,10 12,0 17,10"/>
  <polygon points="0,25 5,15 10,25"/>
  <polygon points="15,25 20,15 25,25"/>
</g>
```

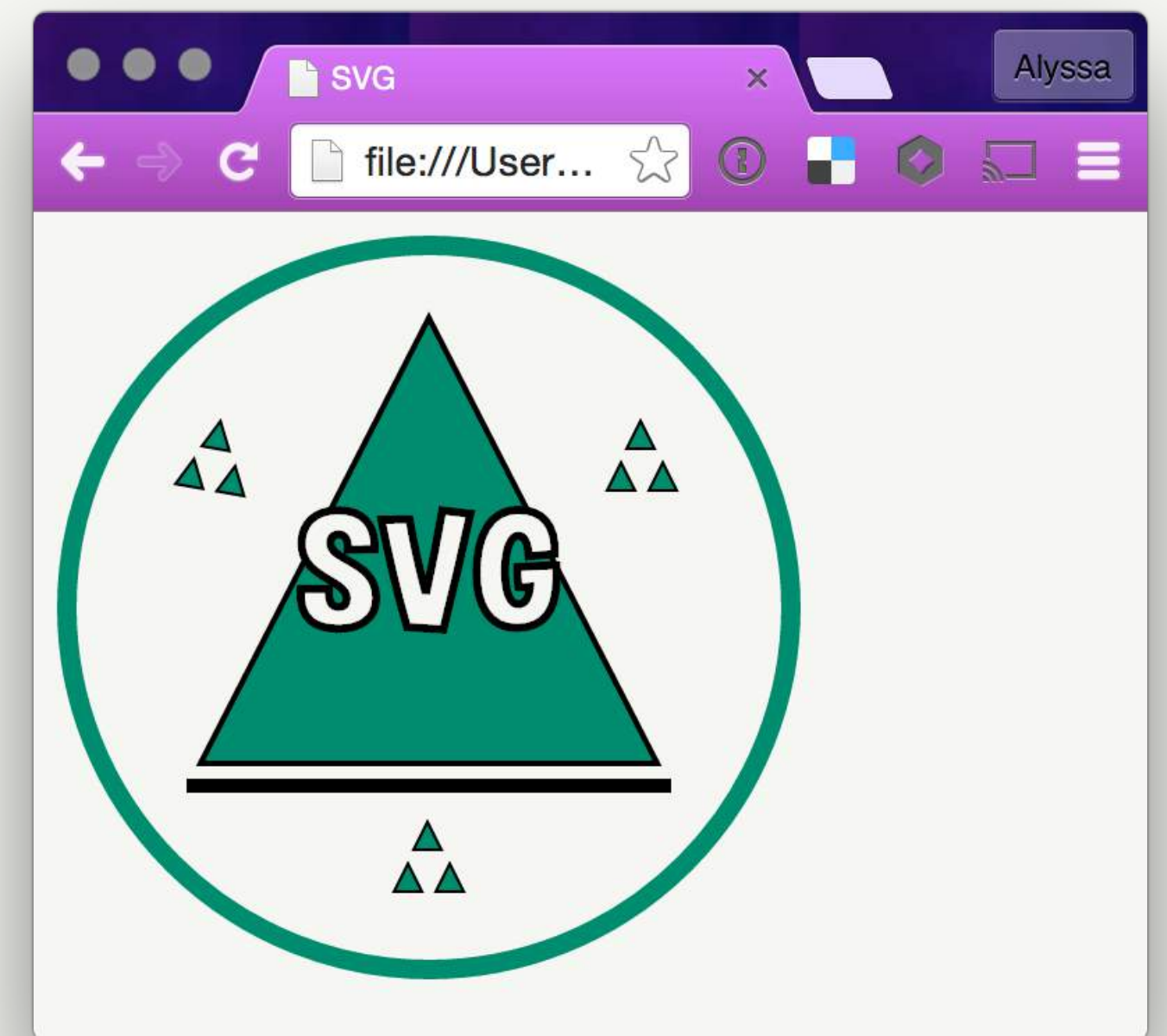
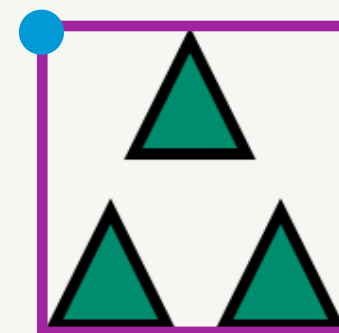
degrees

x origin

y origin



**If you just specify the degrees, the rotation will default to rotate around 0,0.**



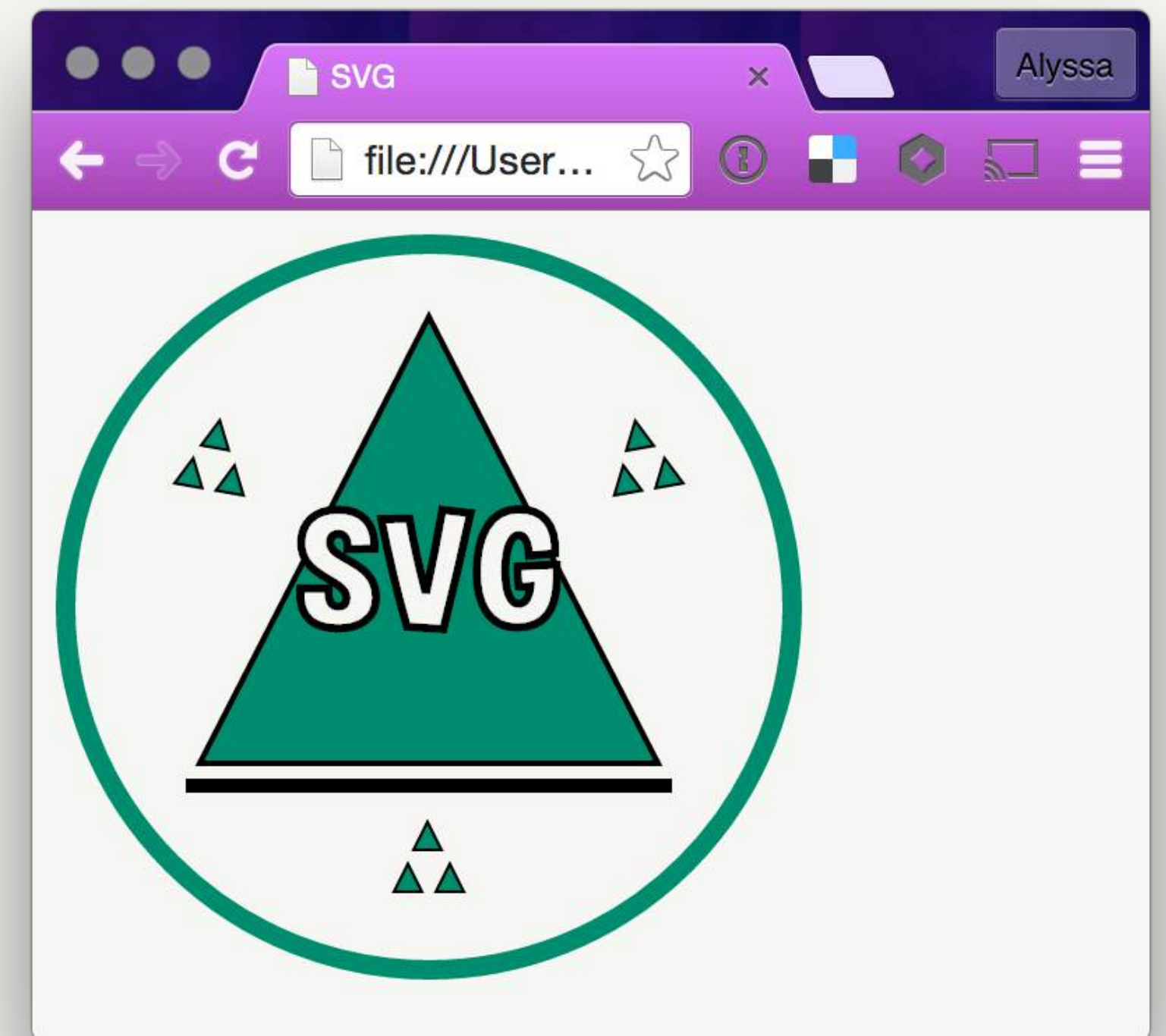
# Rotating the Second Triangle Group

We rotate around the center 12.5,12.5 again for the second group, but this time we will rotate it -10 degrees.

index.html

```
<g class="second_triangle_group"  
  transform="translate(198, 67) rotate(-10 12.5 12.5)">  
  <polygon points="7,10 12,0 17,10"/>  
  <polygon points="0,25 5,15 10,25"/>  
  <polygon points="15,25 20,15 25,25"/>  
</g>
```

degrees  
x origin  
y origin



**Static rotations like this will stay between 360 to -360.**

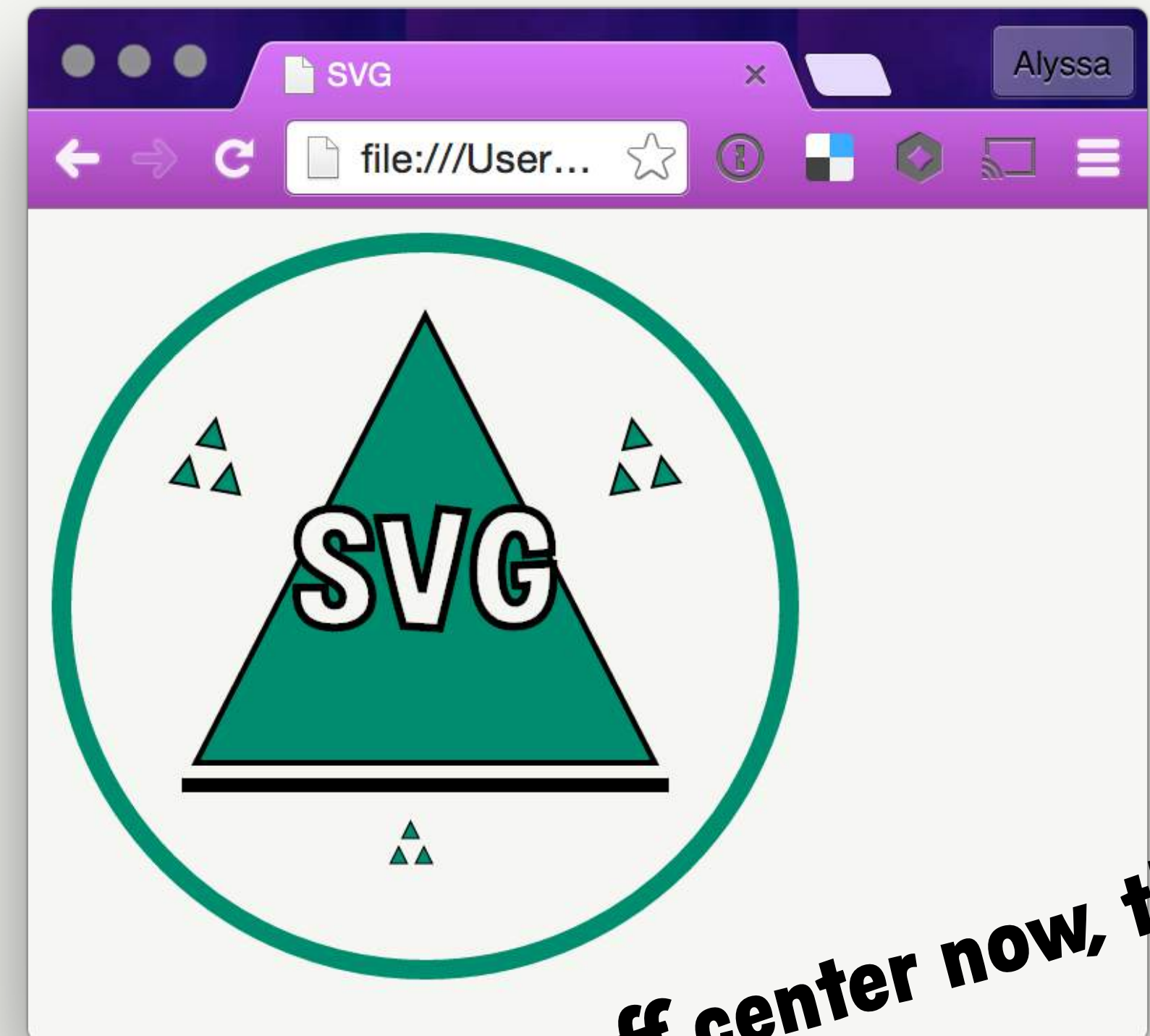


# Scaling the Third Triangle Group

Next, we can shrink this bottom group using transform's scale property. Scale takes a value to multiply the size by. So scale(1) is normal; scale(2) is twice the size.

index.html

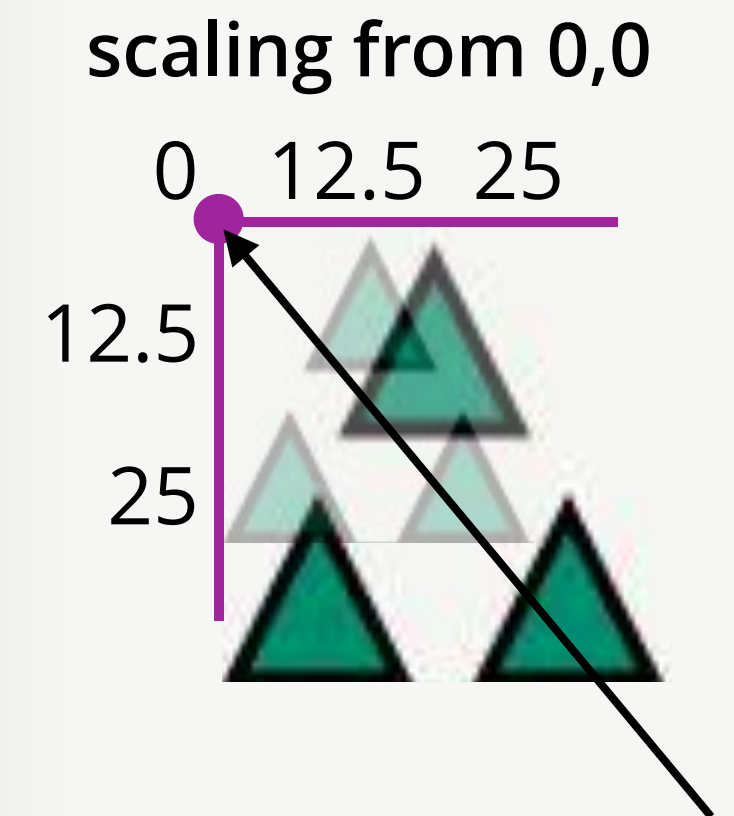
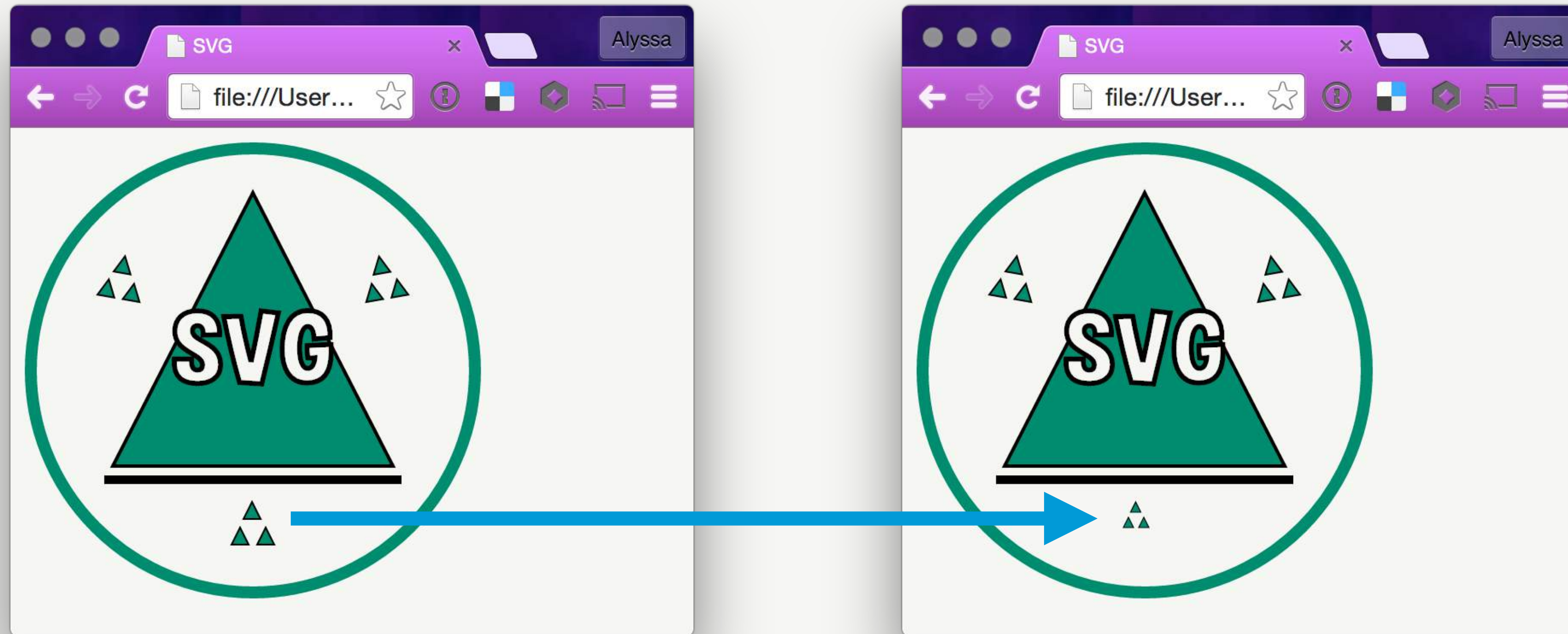
```
<g class="third triangle_group"
  transform="translate(121.5,211) scale(0.6) ">
  <polygon points="7,10 12,0 17,10"/>
  <polygon points="0,25 5,15 10,25"/>
  <polygon points="15,25 20,15 25,25"/>
</g>
```



**Looks off center now, though...**

# Scale's Top Left Origin

The group is scaling from 0,0.



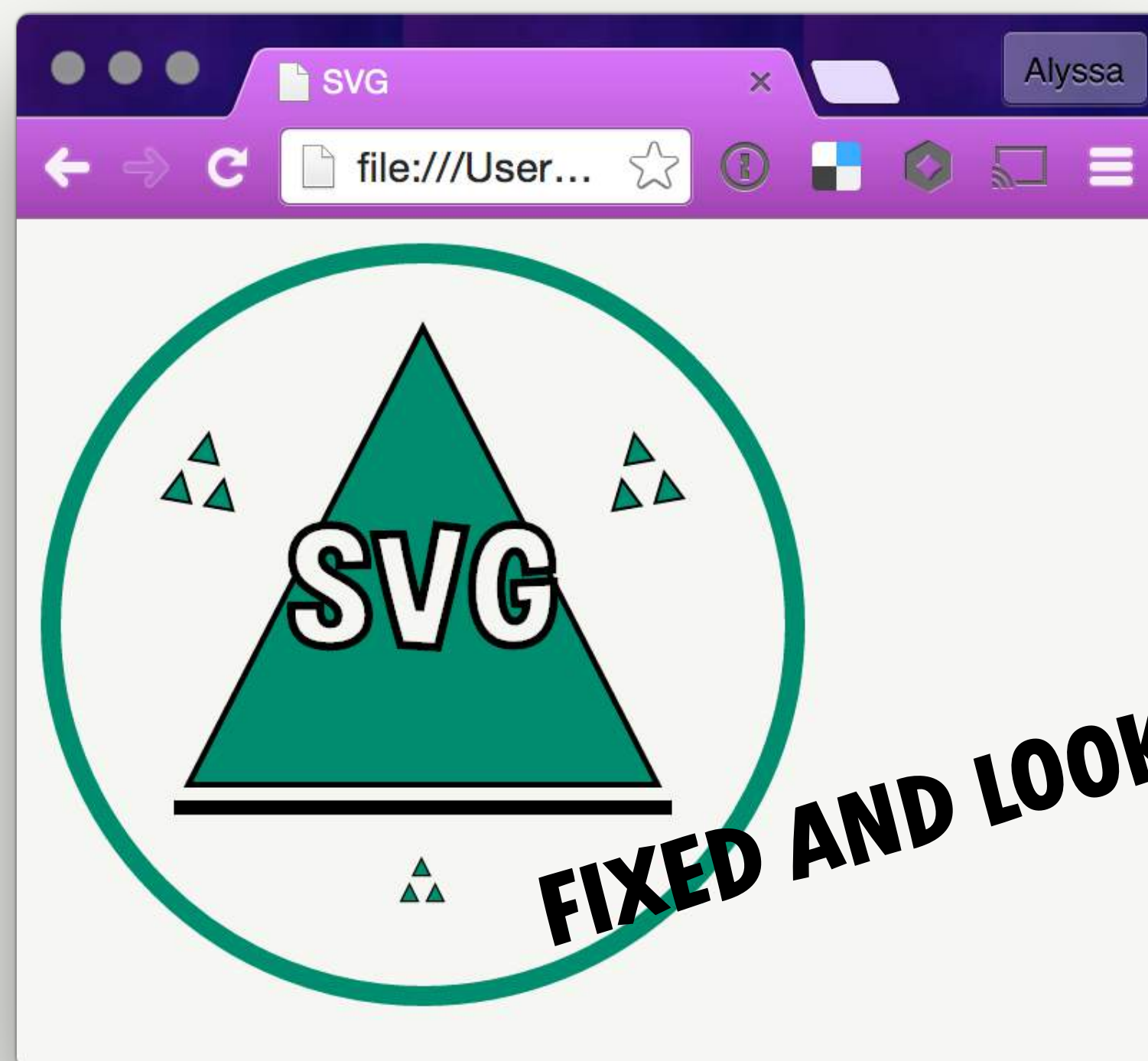


# Adjusting Coordinates Because of Scale

Chaining another translation to move the group down and right will fix this problem.

**Every time will be different. We need to move ours 8,8.**

```
<g class="third triangle_group" transform="translate(121.5,211)  
scale(0.6)  
translate(8,8)">
```



We now know how to not only translate, but rotate, scale, and chain transforms!